PRINTING/History

The history of printing can be traced back thousands of years, to when man first learned to press carved designs into wet clay. Yet printing as we know it today has a short history. Modern printing began only about 500 years ago with the invention of movable type by Johannes Gutenberg of Germany.

Printing in the Orient. About A.D. 105, Ts'ai Lun, a Chinese, invented paper. The Chinese probably also invented *block printing*. They carved characters and pictures on wood blocks, inked the raised images, and transferred the ink to paper.

About 1045, a Chinese printer named Pi Sheng made the first movable type. He made a separate piece of clay type for each character. The use of movable type did not develop in China because the Chinese language has thousands of different characters. Printers would have had to make too many pieces of type. They found it easier to print from wood blocks.

The Invention of Movable Type. While the people of the Orient were printing from wood blocks, the people of Europe were still producing handwritten books. Many monks spent their lives laboriously copying books with quills and reeds. In the early 1400's, Europeans finally discovered block printing. The earliest dated European wood block print is a picture of Saint Christopher, printed in 1423. About this same time, Europeans began to produce *block books* by binding prints together.
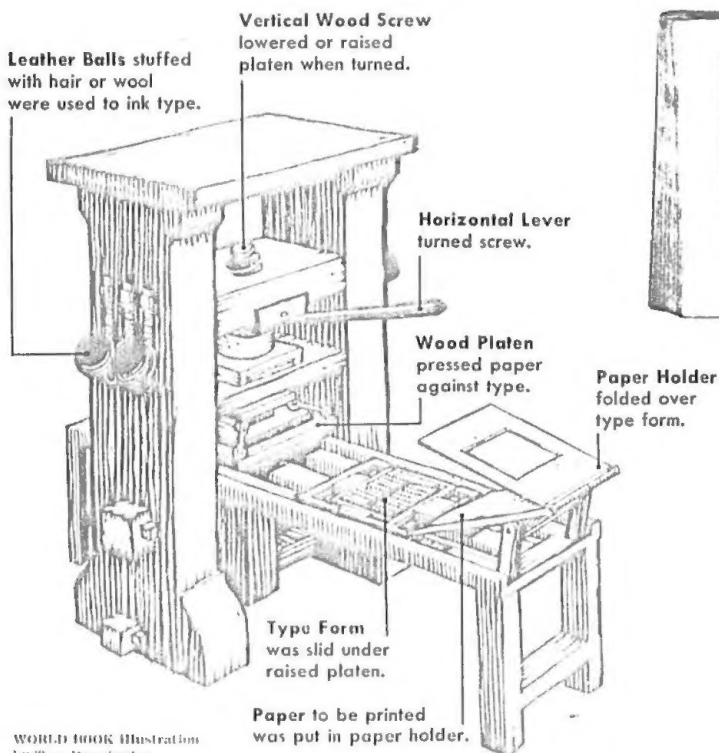
Meanwhile, the Renaissance was sweeping through Europe. The great desire for learning created a huge demand for books that hand copying and block printing could not satisfy. Movable type solved the problem.

Most historians consider Johannes Gutenberg the inventor of movable type in Europe. Gutenberg began using separate pieces of raised metal type about 1440. He adapted his printing press from a machine used to press grapes or cheese. Gutenberg assembled his pieces of type in a form, and then inked the type. Next, he placed paper on the type. Then, by turning a huge wood screw on the press, he brought down a wood block against the paper. The Gutenberg press could print about 300 copies a day. By 1456, Gutenberg's famous 42-line Bible was completed. Each column had 42 lines of type. See GUTENBERG, JOHANNES.

Many people feared that the new art of printing was a "black" art that came from Satan. They could not understand how books could be produced so quickly, or how all copies could look exactly alike. In spite of people's fears, printing spread rapidly. By 1500, there were more than 1,000 print shops in Europe, and several million books had been produced.

Early Printing in North America. In 1539, an Italian printer, Juan Pablos (Giovanni Paoli), set up a print shop in Mexico City. Most historians believe his was the first print shop in North America. In 1639, Stephen Daye and his son Matthew set up the first press in the American Colonies, in Cambridge, Mass. (see DAYE, STEPHEN).

Printing spread quickly through the colonies, though the colonial authorities often placed strict controls on printers. The early printers were more than operators of print shops. They were also America's first publishers of newspapers, books, and magazines. In 1704, John

Leather Balls stuffed with hair or wool were used to ink type.

Vertical Wood Screw lowered or raised platen when turned.

Horizontal Lever turned screw.

Wood Platen pressed paper against type.

Paper Holder folded over type form.

Type Form was slid under raised platen.

Paper to be printed was put in paper holder.

WORLD BOOK Illustration by Tom Dunnington

WORLD BOOK photo

Gutenberg's Press probably looked like this drawing, *left*. It was adapted from a cheese or wine press, and could print about 300 sheets a day. Although the press was exceedingly crude, it produced what is still one of the most magnificent examples of the art of printing—the Gutenberg Bible, *above*.

Modern Web Offset Press, *right*, is one of the giant presses used to print WORLD BOOK. The three-story press is 110 feet (34 meters) long. It can print a 5½-mile (9-kilometer) roll of paper every 30 minutes. The press's delivery unit, shown here, cuts the printed web into sheets and folds the sheets into groups of pages.

Dr. Davis Bitton, left, Dr. Everett Cooley compare hand-printed copy of *An Excerpt* | *From A Journey to Great-Salt-Lake-City* printed at the U', with French original.